

REMARKS/ARGUMENTS

After the foregoing Amendment, Claims 45-88 have been canceled without prejudice. New claims 89-120 have been added that include new independent claims 89, 96, 103, 108 and 114. In the specification, paragraph [0075] is amended. The amendment to paragraph [0075] is based on Claim 8 of the originally filed application. Applicants submit that no new matter has been introduced into the application by these amendments.

Claims Rejections – 35 USC §112

Claims 45, 47-48, 50-51, 53-54, and 59 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claims 45-88 have been canceled without prejudice. Withdrawal of the § 112 rejection of claims 45-88 is respectfully requested.

Claim Rejections - 35 USC §103(a)

Claims 45, 59, 74, 83 and 85 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,834,192 to Watanabe et al. (hereinafter “Watanabe”) in view of U.S. Patent Publication No. 2004/0142691 to Jollota et al. (hereinafter “Jollota”) and further in view of U.S. Patent No. 5615409 to Forssen et al. (hereinafter “Forssen”). Claim 69 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, Jollota, and Forssen et al. in view of U.S. Patent No. 6593880 to Velazquez et al. (hereinafter “Velazquez”). Claims, 84 and

86-87 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, Jollota and Forssen in view of U.S. Patent No. 5396541 to Anderson et al. (hereinafter “Anderson”). Claims, 47, 53-54, 61, 64, 70, 74 and 88 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, Jollota and Forssen in view of U.S. Patent No. 5893033 to Keskitalo et al. (hereinafter “Keskitalo”). Claims, 50, 63, 76, and 80-82 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, Jollota and Forssen and U.S. Patent No. 6445917 to Bark et al. (hereinafter “Bark”) in view of Keskitalo. Claim 51 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, Jollota and Forssen in view of Bark et al. and further in view of Velazquez. These rejections are respectfully traversed.

Claims 45-88 have been canceled without prejudice. However, the Applicants believe the present claims are patentable over the cited references which are directed to a novel and unobvious combination of using an omnidirectional sounding pulse in combination with wireless communication beamforming.

Watanabe fails to teach or suggest “using selectively operable beamforming antenna to direct a common channel toward a relative location of the WTRU” as defined by new independent claims 89, 96, 103, 108 and 114. Watanabe recites that “the mobile Bluetooth device searches for other possibilities including a new AP” (column 6, lines 41-43). The means by which this search is performed is not

disclosed. Watanabe then explains that once a new AP is found and selected “Establishment of a new connection with the access point 22-2 is attempted by the mobile Bluetooth device pursuant to an INQUIRY process (column 6, lines 43-45). “An INQUIRY message is sent by the mobile Bluetooth device to the access point 22-2 to inquire of a device address identifying the access point.” Thus it is clear that the INQUIRY message is directed to the access point. Nothing in Watanabe teaches or suggests that the INQUIRY message is equivalent to the omnidirectional sounding pulse recited by the new independent claims.

The Examiner argues that it is known in the art of Bluetooth that a mobile device often sends out an inquiry signal and receives responses back from multiple access points and one of the access points is selected for communication. However, one skilled in the art would recognize that a Bluetooth an INQUIRY signal is inapplicable for use with a WTRU and is not the equivalent of an omnidirectional sounding pulse as recited by the new independent claims. For example, the INQUIRY process is a relatively slow, taking on the order of several seconds to complete; the effective signal range is only 10 meters; an INQUIRY signal is sent on a train of 32 hop frequencies. Furthermore, an INQUIRY signal results in the communication of a target Bluetooth access point’s MAC address and clock information, and does not provide any indication of the relative location. Therefore an inquiry signal is not equivalent to the omnidirectional sounding pulse recited by

the new independent claims.

Jollota et al. teaches a technique for connection initiation in Bluetooth networks where a mobile unit sends an Inquiry packet, such that nearby base stations that are in an inquiry scan state receive the Inquiry packet from the mobile unit. As explained above, the Bluetooth INQUIRY process is not equivalent to an omnidirectional sounding pulse.

Furthermore, Watanabe and Jollota do not consider directing a common channel toward the relative location of the WTRU. The concept of directionality is antithetical to the Bluetooth technology and nothing Watanabe or Jollota suggests the use of location information.

The Examiner asserts that Forssen teaches a method of performing handover using smart antenna arrays. The Applicants respectfully disagree. Forssen discloses performing handover “using one of the methods that are well known” (column 5, lines 38-41 and figure 8), and then using beamforming to reduce interference and increase system capacity (column 2, lines 21-30). Forssen explicitly states that class one channels, which are omnidirectional (Figure 2A), are used for handover (column 4, lines 15-16). Then, after a handover is complete, positional information is determined (column 4, lines 15-35). Only then is a directional, narrow lobe, beam used. Therefore Forssen fails to remedy the deficiencies of

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Watanabe and Jollota. Velazquez, Anderson, Keskitalo, Bark, and Willingham similarly fail to remedy the deficiencies of Watanabe, Jollota, and Forssen.

Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 89-120, are in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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